

# Teaching Mean, Median and Mode. Activity 7 on p 3

Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data ACMSP171. Yr 7. Stats and Probability

Week 1	Week 2	Week 3	Week 4	Week 5
RAS Alert to task in Week 5. Whether to use Mean, Mode or median in describing house prices	Teach Mean	Teach Median	Teach Mode	Task. Which one to employ in describing house prices

**Topic:** Discuss and assess the value of using Mean, Median and Mode for expressing house prices.  
**Context.** 11 houses were sold this month. 10 @ b\$400k and 1 @ \$4million

Perspectives	Pros 😊	Cons ☹️	Questions ❓	Assessment
<b>Mean</b> (Average of total). \$727,272	Simple to calculate Can write the process as a formula Most people understand the concept of an average	Means nothing since no houses have been sold at \$727k. Misleading – distorted by the one very high value. Can only be used with numbers. There is no mean for non-numeric data (e.g.: number of blond people in a community).	When can I use this? If I am at an interview for a sales position, I can state that my mean sales for the past month was \$727k and this may improve my prospects of employment.	
<b>Median</b> (the middle price of all 11 houses. The 6 <sup>th</sup> house) \$400,000	More realistic Describes the majority of sales It is a reasonable value. Not as easily distorted by a small number of very high or low values	It is complicated to calculate, especially if we have many sales such as 276 sales. There is no formula to arrange these numbers from highest to lowest. Not well understood by many people.	When would I use it? If I am an estate agent and I wish to make my family budget, I would have a realistic expectation of commission based on \$400k and not on \$727k. A \$4 million sale would be a sheer bonus.	
<b>Mode</b> The most common number \$400,000	Can be used for non-numeric data, such as hair colour in a community or car colours or preferences (e.g.: very good, good, satisfactory, bad, very bad)	Easily distorted. It does not show the typical price if there are eleven houses sold, all at different prices apart from two houses with the same price. These may be two at \$300k and the rest range up to \$4m	Is it relevant in any way? Can I use this to mislead people? Is it ethical to use this?	

## Yr 7 Maths Statistics and Probability

Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data.

### Extended PCQ and Extent Barometer

Mean, Median and Mode (Mathematics, Yr.7: ACMSP171)



Perspectives	Pros	Cons	Questions	Assess
<b>Mean = \$727 272</b>	Can write the process as a formula	Means nothing since no houses have been sold at \$727k.	When can I use this?	
<b>Median = \$400 000</b>	More realistic as it describes the majority of sales.	There is no formula to arrange these numbers from highest to lowest.	When would I use it?	
<b>Mode = \$400 000</b>	Can be used for non-numeric data, e.g.: very good, good, satisfactory, bad, very bad	It does not necessarily show the typical price if there are eleven houses sold, all at different prices apart from two houses with the same price	Is it relevant in any way? Can I use this to mislead people?	

PO Box 2640  
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f: 07 4638 8366

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## Work Sample: Imaginative interpretation – Tuck Everlasting

- Year 8 students listen to, read and view Summarise and synthesise the main ideas and viewpoints. They support their own opinions with specific textual evidence, and evaluate evidence

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# Choice 1: Describe in your own words why Winnie ran away

**CAUSE-EFFECT MAP** Topic: \_\_\_\_\_

**CAUSES** **EFFECT**

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# Choice 2: Winnie and Jesse Tuck. Two like minded souls. Compare and Contrast

**DOUBLE-BUBBLE MAP** Topic: \_\_\_\_\_

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**Choice 3: Eternal Life, its not for me. Decide if would you drink the spring water and have eternal life?**

PG 6 EXTENSION (with extra parameters)

Topic:

Perspectives/Strategies	😊 Pros	☹ Cons	🤔 Questions	Ext Bar
1 Relationship to others				
2 Adapting to change				
3 Enthusiasm - boredom				
4				
5 Starting something and learning				
6				

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PG 6 EXTENSION (with extra parameters)

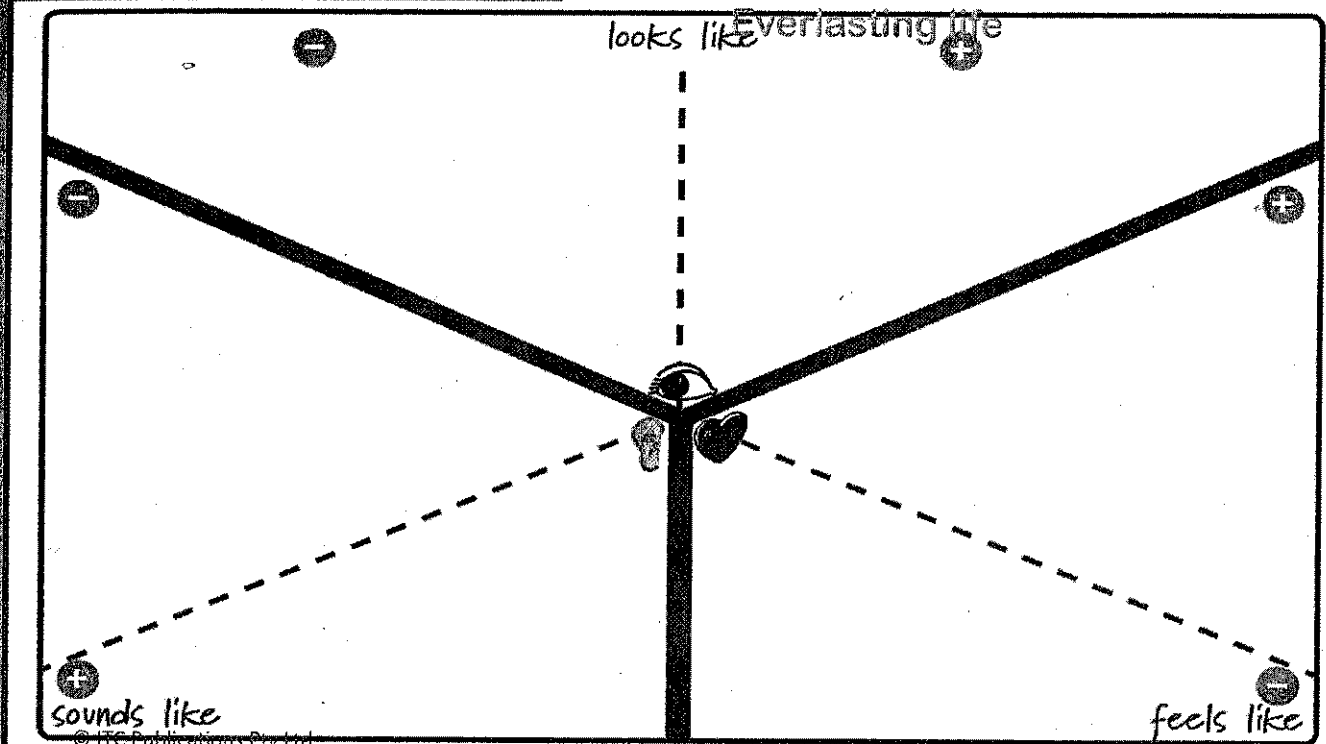
Topic: Discuss and decide on buying x phone

Perspectives/Strategies	😊 Pros	☹ Cons	🤔 Questions	Ext Bar
1 Monthly costs				
2 Email and SMS				
3 Screen				
4 Security				
5 Camera				
6 Supporting each other and my budget				

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# Choice 4: Sorry folks you're going to die. Develop an argument to persuade people that immortality is overrated.

Topic:

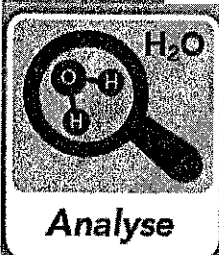
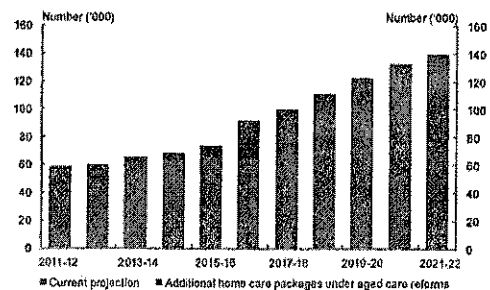


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## Analyse

- Investigate,  
discuss,  
research,  
explore,  
examine,



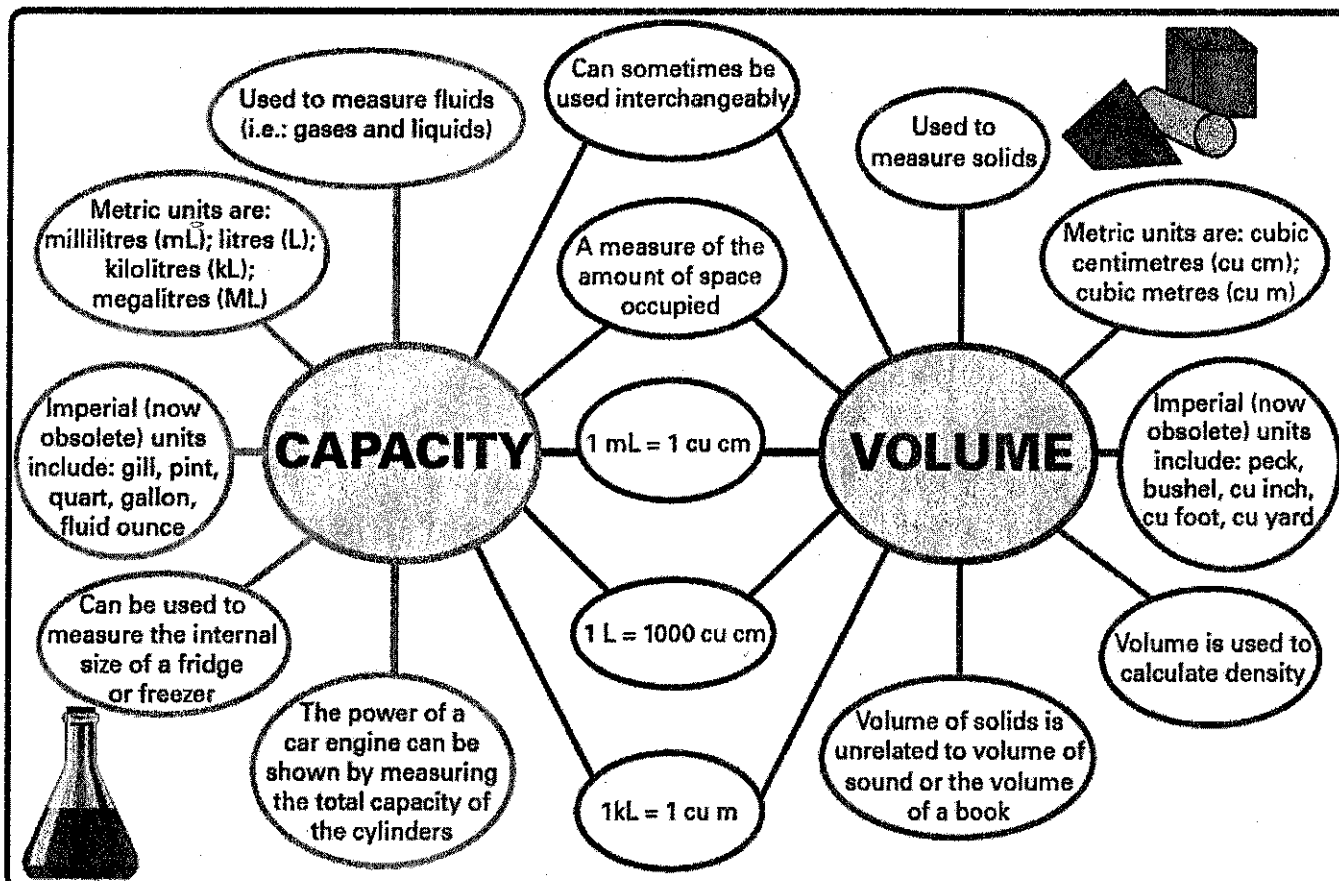
Acting like a magnifying glass to closely examine and identify the component parts of an issue, situation or object.

Argue (about)  
Debate  
Deconstruct  
Differentiate  
Discuss  
Distinguish  
Identify  
Investigate  
Summarise (complex)

Analyse...from at least 4 perspectives...  
Discuss the similarities and differences of...  
Compare...  
Investigate all factors that could influence...in...  
Summarise the viewpoints...on a wiki...  
Deduce how parts interact in...  
Conduct research on the issue of...in order to gain a deeper understanding of...  
Research the pros and cons of...

PCQ & PCQ Extension  
Attribute Listing  
Double Bubble Map  
Decision-Making Matrix  
T-Chart  
Fishbone Diagram  
Y-Chart/Split Y-Chart  
Icon Prompt  
SWOT Analysis

## Topic: Volume and Capacity



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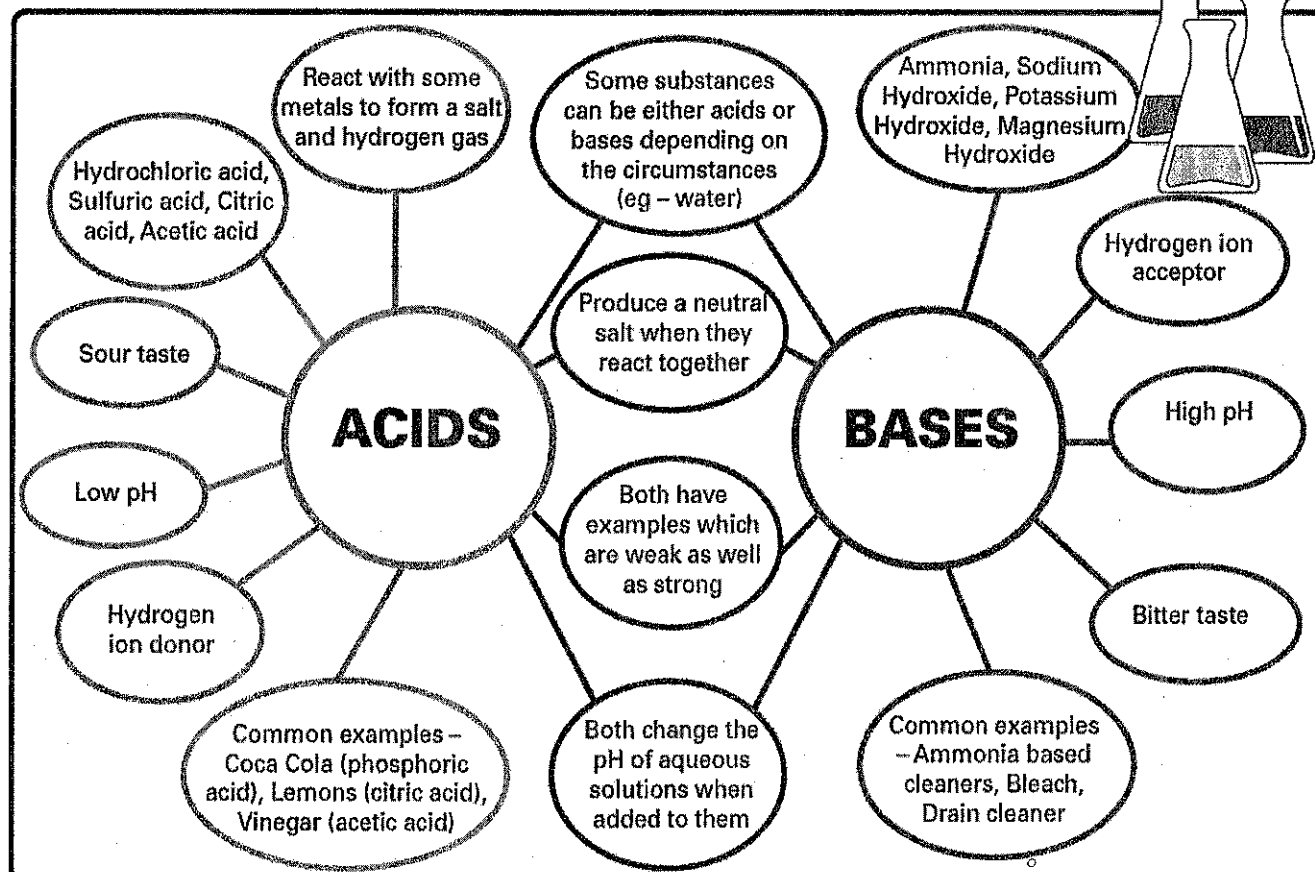
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## DOUBLE BUBBLE MAP

## Topic: Acids and Bases



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## SWOT Analysis: Discuss the possibility of going solar

### Strengths:

Pay less or no power bills  
Reduce demand on grid  
Less investment needed to expand grid  
Powers more domestic devices  
No guilt  
New manufacturing industry

### Weaknesses:

Big up-front costs  
No knowledge of long-term maintenance  
Less money for power companies and shareholders  
Fewer employment prospects

### Opportunities:

Research into other forms of non-fossil fuel energy  
To export the industry  
To expand to other devices – e.g. cars and marine vehicles

### Threats:

House fires and fire-fighters getting electrocuted – live roofs  
Over consumption  
Less exercise  
Changing weather patterns  
Dodgy Installers  
Possible health risks

## Extended PCQ

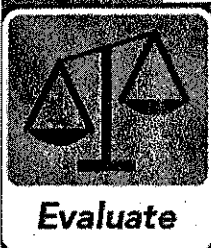
### Social Service Projects (Religious Education, Yr.10)

Your students engage with many social service projects. Make the most of their time by running an Extended PCQ to help determine the most effective project for their skills and time. Consider a project to provide gardening assistance to elderly people who live close to the school.

Perspectives	Pros	Cons	Questions
Student strengths	Is great chatting with people	Busy with sport on weekends	How will I get to the house?
Parents' involvement	Good for family to work together for others	Busy with other family members on weekend	Whose mower and other equipment will we use?
Cost involved	Great for community members who need assistance	Parents will have to drive kids to school another time on weekend	Is school paying for fuel and equipment?

# Evaluate

- Decide, select, rate, prioritise, recommend, justify



Acting like the scales of justice to weigh up the evidence to make and justify a decision.

Argue for/against  
Assess  
Conclude  
Critique  
Decide  
Judge  
Justify  
Prioritise  
Recommend

To what extent...  
Which of the two... would be better for...  
Justify the decision of...  
Determine which is more effective...  
Evaluate the effectiveness of...  
Select which is the best option... or...  
Rank the following from... to...  
Defend the issue... on a blog...  
Validate the accuracy of the following sites...

Expert Barometer  
Decision-Making Matrix  
Judge-Jury  
POD Extension  
Elimination Draw  
Human Continuum

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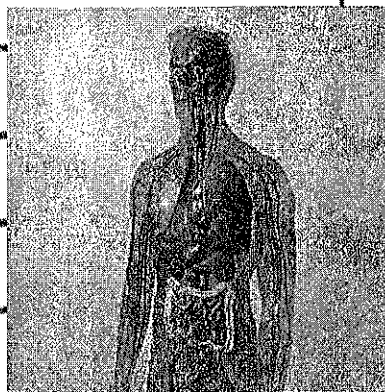
## DECISION-MAKING MATRIX

Which Organ Can I Sell? (Science, Yr.8: ACSSU150)

The organ that has the lowest score, is the one you sell!



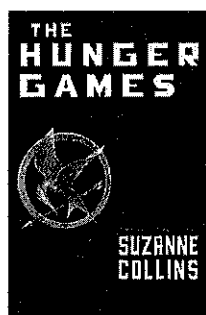
Organ	Effect on Respiratory System	Effect on Circulatory System	Effect on Digestive System	Total Score
Kidneys				
Score				
Pancreas				
Score				
Liver				
Score				



**YR 9. ENGLISH. Work Sample 2.**  
**'BOOKS ARE BETTER OPTIONS THAN TELEVISION'**

- Students create texts that respond to issues, interpreting and integrating ideas from other texts.
- They make presentations and contribute actively to class and group discussions, comparing and evaluating responses to ideas and issues. They edit for effect, selecting vocabulary and grammar that contribute to the precision and persuasiveness of texts and using accurate spelling and punctuation.

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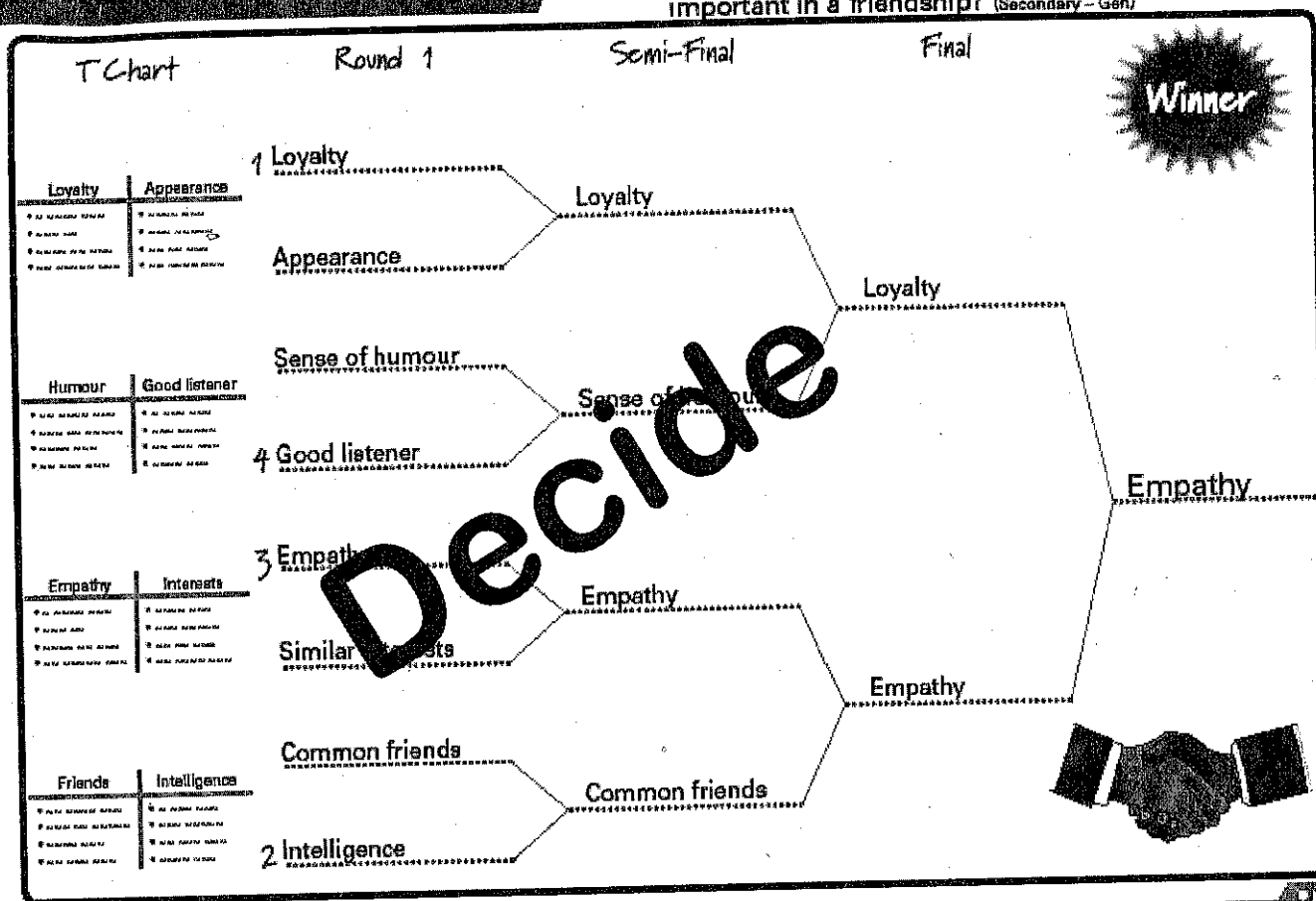
**DECISION MAKING MATRIX**

Topic: **BOOKS ARE BETTER OPTIONS THAN TV. DEBATE AND DECIDE**

	Factors/Criteria								Total
	HEALTH EYES	INTEGRITY	CONVENIENCE	VAK EFFECT	IMAGINATION				
Option A BOOKS									0
Ranking									
Option B TELEVISION									0
Ranking									

CRITICAL ANALYSIS

**Topic:** Which quality of a relationship is the most important in a friendship? (Secondary – Gen)

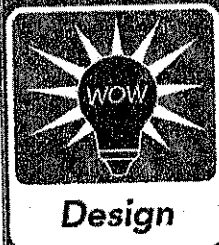
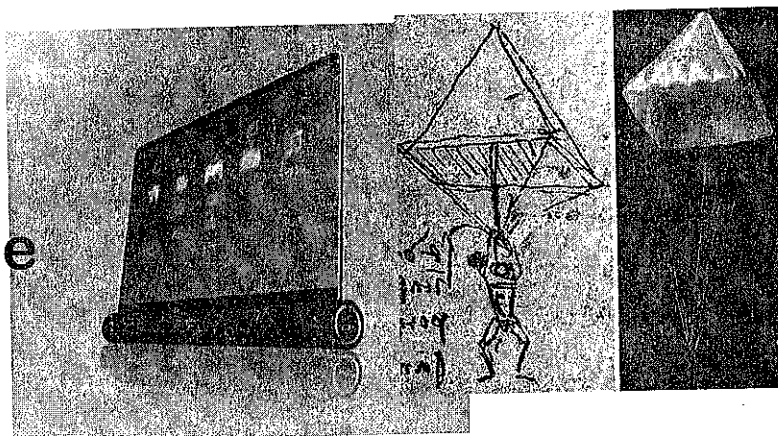


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# Design, modify, improve

- Create, invent, improve, modify, propose, compose



Acting like an inventor, experiencing 'light bulb' moments to generate new products, ideas or ways of doing things.

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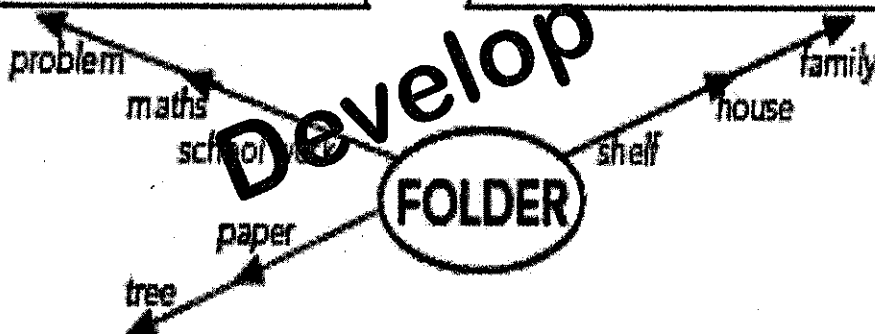
# WORD ASSOCIATION - The 'Ideas' Launch Pad

## Historical Skills (Yr.8, History, ACHHS150)

Students develop a range of questions about the collapse of Easter Island. These questions will form the basis of their historical enquiry.

Was the community aware of a problem?

Did the society work together to solve issues?



How did Easter Islander's treat and use the environment?



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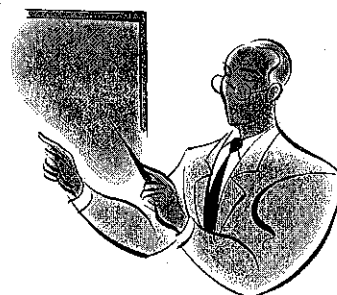
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Summarising Tool

## Reflection Tool: 3:2:1:R:I:Q



- 3 x Recalls (facts)
- 2 x Insights
  - Implications, affirmations, relevance
- 1 x Question
  - I wonder....?
  - In the future, what will .... ?
  - How does this affect ..?



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